

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 4, 8-10 and 13-17 are pending in the present application, Claims 1, 8, and 9 having been amended, Claims 6 and 12 having been canceled without prejudice or disclaimer, and Claims 13-17 having been withdrawn from further consideration as directed to a non-elected invention. Support for the amendments to Claims 1 and 9 is found, for example, in Fig. 3A, Fig. 3B, and original Claim 12. Claim 8 is amended to be consistent with Claim 9. Applicants respectfully submit that no new matter is added, and that no new issues are raised.

In the outstanding Office Action, Claim 1 was rejected under 35 U.S.C. §112, second paragraph; Claim 12 was objected to; Claims 1, 4, 6, 8, and 9 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ohsawa (U.S. Pat. No. 6,617,651); Claims 10 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohsawa and in view of Houston (U.S. Patent No. 6,703,673).

With respect to the rejection of Claim 1 under 35 U.S.C. §112, second paragraph, Applicants respectfully submit that the amendment to Claim 1 overcomes this ground of rejection. Claim 1 is amended to replace “an area” with “a length of a boundary.” Applicants respectfully submit that the rejection under 35 U.S.C. §112, second paragraph, is overcome.

With respect to the objection to Claim 12, Applicants respectfully submit that the cancellation of Claim 12 renders this ground of objection moot. However, Applicants respectfully submit that amended Claim 1, which includes subject matter similar to what was in Claim 12, more clearly describes and distinctly claims the subject matter regarded as the invention.

With respect to the rejection of Claim 1 as anticipated by Ohsawa, Applicants respectfully submit that the amendment to Claim 1 overcomes this ground of rejection. Amended Claim 1 recites, *inter alia*, “wherein in a cross-section of the semiconductor device taken in a direction extending along and approximately parallel to the word line, a length of a boundary between the body region and the first insulation layer is larger than a length of a boundary between the body region and the second insulation layer, and the body region has steps on sides of the body region, the sides facing toward a direction extending along and approximately parallel to the word line.” Ohsawa does not disclose or suggest at least these elements of amended Claim 1.

Ohsawa discloses a semiconductor memory device including a body region 13, as shown in Fig. 4A. The bottom of the body region is wider than the top of the body region in a cross-section of the semiconductor device taken in a direction extending **perpendicular to the word line**.

On the contrary, Claim 1 defines a body region in the cross-section taken in a direction extending **along the direction of the word line**. In a non-limiting embodiment of the claimed invention, wherein a length of a boundary between the body region and the first insulation layer is larger than a length of a boundary between the body region and the second insulation layer, an increase in the capacitance value  $C_{sub}$  (the capacitance value between the body region and the semiconductor substrate) is achieved with respect to conventional techniques.<sup>1</sup>

Furthermore, Houston does not cure the above-noted deficiency in Ohsawa.

Furthermore, Claim 1 recites “the body region has steps on side of the body region, the side facing toward a direction extending along and approximately parallel to the word line.” This configuration is not disclosed in Ohsawa or Houston.

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<sup>1</sup> Specification, page 9, lines 17-27.

The outstanding Office Action takes the position that Houston discloses that LDD implants (source/drain extensions) constitute steps in a source/drain region.<sup>2</sup> However, the sides of the body region provided with source/drain extensions are different from the sides facing toward a direction extending along and approximately parallel to the word line. That is, in the side of the body region facing toward a direction extending along and approximately parallel to the word line, there is no source/drain extension.

Moreover, Applicants note that Claim 1 does not describe the sides of the body region provided with source/drain extensions.

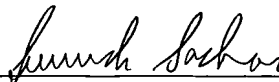
Thus, in view of the above-noted distinctions, Applicants respectfully submit that Claim 1 (and Claims 4 and 8-10 dependent thereon) patentably distinguish over Ohsawa and Houston, taken alone or in proper combination.

Finally, it is respectfully requested that the reference submitted on line AW in the Information Disclosure Statement (IDS) filed July 5, 2006 be considered on the record, and that the Examiner send the undersigned an initialed PTO-1449 form to that effect.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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<sup>2</sup> Office Action, page 6.